



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,182	03/29/2001	Daniel R. Shepard	NUP-001RE	4816

51414 7590 02/27/2007

GOODWIN PROCTER LLP  
PATENT ADMINISTRATOR  
EXCHANGE PLACE  
BOSTON, MA 02109-2881

EXAMINER
----------

TRAN, ANDREW Q

ART UNIT	PAPER NUMBER
----------	--------------

2824

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

09/821,182

Applicant(s)

SHEPARD, DANIEL R.

Examiner

Andrew Q. Tran

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-13,18,19,21-24,31-42,44-46,51-71 and 74-76 is/are pending in the application.
- 4a) Of the above claim(s) 74-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-13,18,19,21-24,31-42,44-46 and 51-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Election/Restrictions***

Claims 74-76 are directed to an invention (Group I invention) that is independent or distinct from the invention/species originally elected (Group II invention and Species E of Fig. 14). See Restriction Requirement of September 28, 2005 and Applicant's Election filed February 01, 2006.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 74-76 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### ***Claim Objections***

Claims 31, 36-37, 39, 44, 46, 57 and 63 are objected to because of the following informalities:

In claim 31, at line 2, 4 and 7, "a.", "b." and "c." should be deleted. In claim 36, line 5, "level" should be deleted; and at line 7, "level" and "levels" should be deleted. In claim 37, line 8, "nonlinear elements" should be changed to --rectifiers--. In claim 39, line 1 and 3, "nonlinear elements" should be changed to --rectifiers--. In claim 44, line 2, "an" should be changed to --said--; and at line 3, "a" should be changed to --the--. In claim 46, line 7, 9 and 11, "nonlinear

Art Unit: 2824

elements" should be changed to --rectifiers--. In claim 57, line 2, --a-- should be added before "circuitry". And in claim 63, line 2, --a-- should be added before "circuitry".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

Claims 4-13, 18-19, 21-24, 31-42, 44-46 and 51-71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 31 is incomplete as failing to recite the interconnections between claimed elements. It is suggested to use terms such as --connected to-- or --coupled to-- to set forth the interconnections between "first and second sets of conductive address lines" (claim 31, line 2) and "a series of information-defining nonlinear elements" (claim 31, line 4). Furthermore, in claims 55, 61 and 67, it is unclear how the external circuitry biases the rectifiers of the information-storage circuit.

***Claim Rejections - 35 USC § 102***

Claims 4-7, 11-13, 18-19, 21-22, 31-42, 44-46 and 51-71 are rejected under 35 U.S.C. 102(b) as being anticipated by Graebel (US Pat 4,661,927 hereafter "Graebel").

As to at least claim 31, Graebel discloses an information storage circuit (Fig. 1) comprising first and second sets of conductive address lines (bitlines B0-B3 and wordlines W0-W2) overlapping each other and defining storage locations; a series of information-defining nonlinear elements (Schottky diodes 28-50); and address circuitry (Y-address buffer/decoder 16 and sense amplifier 20) for disabling all but a selected one of the first set of address lines

Art Unit: 2824

(bitlines B0-B3), wherein the address circuitry comprises a first pattern of rectifiers (diodes 102-108 in Fig. 4) directly connected to the first set of address lines (bitlines B0-B3).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tamura (JP 57-203293) describes a semiconductor integrated circuit.

Tsuyama (JP 57-203294) describes a semiconductor integrated circuit.


Sato et al. (JP 2-98898) describes a diode read-only memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Q. Tran whose telephone number is (571) 272-1885. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2824

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Andrew Q Tran  
Primary Examiner  
Art Unit 2824

at  
February 09, 2007